



State of Montana 457(b) Plan

Investment Performance Evaluation Report

As of March 31, 2018

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Introduction

This report reviews the investment performance of the State of Montana's 457(b) Plan for the quarter ending March 31, 2018, as well as other periods ending on that date. While the most recent quarter is the focus point of this report, we recommend concentration on longer time periods for the consideration of any changes to the investment policy or manager structure.

Performance measurement in this report is designed to:

- Provide an understanding of the environment in which the funds were managed;
- Verify that the assets were managed in compliance with guidelines;
- Assess the managers' strengths, continuity of style, and the means of achieving the performance; and
- Serve as a communications tool for internal focus, as well as to fulfill fiduciary obligations.

This report is based upon data provided by the State of Montana, Morningstar, Empower, and fund management firms.

Plan Overview

Net Assets

- Plan assets totaled \$498.8 million, as of March 31, 2018. This is up from \$499.6 million, as of December 31, 2017.

Asset Allocation

- Plan assets were allocated 47% to the Stable Value fund, 2% to Bond funds, 13% to Target Date/Balanced funds, 31% to U.S. Equity funds, and 8% to International Equity funds.

Fund Overview

As of March 31, 2018

Asset Class	Fund	Ticker	Recommendation	Date of Status Change	Inception Date
Stable Value	State of Montana Stable Value	-	Retain		Sep-13
Fixed Income	Prudential Total Return Bond Q	PTRQX	Retain		Apr-15
Fixed Income	Neuberger Berman High Income Bond Instl	NHILX	Retain		Jun-03
Balanced	Vanguard Balanced Index Instl	VBAIX	Retain		Apr-12
Target Date	T. Rowe Price Retirement Balanced	TRRIX	Retain		Oct-11
Target Date	T. Rowe Price Retirement 2005	TRRFX	Retain		Oct-11
Target Date	T. Rowe Price Retirement 2010	TRRAX	Retain		Oct-11
Target Date	T. Rowe Price Retirement 2015	TRRGX	Retain		Oct-11
Target Date	T. Rowe Price Retirement 2020	TRRBX	Retain		Oct-11
Target Date	T. Rowe Price Retirement 2025	TRRHX	Retain		Oct-11
Target Date	T. Rowe Price Retirement 2030	TRRCX	Retain		Oct-11
Target Date	T. Rowe Price Retirement 2035	TRRJX	Retain		Oct-11
Target Date	T. Rowe Price Retirement 2040	TRRDX	Retain		Oct-11
Target Date	T. Rowe Price Retirement 2045	TRRKX	Retain		Oct-11
Target Date	T. Rowe Price Retirement 2050	TRRMX	Retain		Oct-11
Target Date	T. Rowe Price Retirement 2055	TRRNX	Retain		Oct-11
Large Value	Vanguard Equity-Income Adm	VEIRX	Retain		Jun-13
Large Blend	Parnassus Core Equity Instl	PRILX	Retain		Apr-15
Large Blend	Vanguard Institutional Index I	VINIX	Retain		May-05
Large Growth	Fidelity Contrafund	FCNTX	Retain		Apr-97
Mid Value	MFS Mid Cap Value R6	MVCKX	Retain		Mar-14
Mid Blend	Vanguard Mid Cap Index Adm	VIMAX	Retain		Aug-16
Mid Growth	Janus Henderson Enterprise N	JDMNX	Retain		Oct-16
Small Value	Neuberger Berman Genesis Tr	NBGEX	Retain		Apr-98
Small Blend	Vanguard Small Cap Index Instl	VSCIX	Retain		Sep-06
Small Growth	Vanguard Small Cap Growth Index Instl	VSGIX	Retain		Sep-10
International	American Funds New Perspective R6	RNPGX	Retain		Jul-04
International	Franklin Mutual Global Discovery Z	MDISX	Retain - Probation	10/26/2017	Sep-03
International	Dodge & Cox International Stock	DODFX	Retain		Sep-06
International	Vanguard Total Intl Stock Index Adm	DODFX	Retain		Nov-10
International	Artisan International Inv	ARTIX	Retain - Probation	10/26/2017	Jun-02
International	Oppenheimer Developing Markets Y	ODVYX	Retain		Nov-12

Asset Allocation

As of March 31, 2018

# of Options	Options	Plan Assets	% of Plan	# of Participants
1	State of Montana Stable Value	\$232,738,590	46.7%	5,588
	Total Stable Value Fund	\$232,738,590	47%	
2	Prudential Total Return Bond Q	\$6,937,257	1.4%	1,579
	Neuberger Berman High Income Bond Instl	\$3,521,735	<1%	621
	Total Bond Funds	\$10,458,992	2%	
13	Vanguard Balanced Index Instl	\$22,717,525	4.6%	1,862
	T. Rowe Price Retirement Balanced	\$598,217	<1%	72
	T. Rowe Price Retirement 2005	\$266,572	<1%	28
	T. Rowe Price Retirement 2010	\$1,455,673	<1%	70
	T. Rowe Price Retirement 2015	\$2,530,100	<1%	140
	T. Rowe Price Retirement 2020	\$8,997,288	1.8%	358
	T. Rowe Price Retirement 2025	\$7,963,028	1.6%	442
	T. Rowe Price Retirement 2030	\$5,089,089	1.0%	421
	T. Rowe Price Retirement 2035	\$5,393,887	1.1%	500
	T. Rowe Price Retirement 2040	\$3,321,374	<1%	426
	T. Rowe Price Retirement 2045	\$2,764,295	<1%	430
	T. Rowe Price Retirement 2050	\$989,361	<1%	184
	T. Rowe Price Retirement 2055	\$686,373	<1%	191
	Total Target Date/Balanced Funds	\$62,772,783	13%	
10	Vanguard Equity-Income Adm	\$19,890,488	4.0%	1,383
	Parnassus Core Equity Instl	\$3,540,678	<1%	563
	Vanguard Institutional Index I	\$32,897,897	6.6%	2,284
	Fidelity Contrafund	\$43,897,443	8.8%	2,296
	MFS Mid Cap Value R6	\$6,210,985	1.2%	689
	Vanguard Mid Cap Index Adm	\$1,227,818	<1%	188
	Janus Henderson Enterprise N	\$12,807,508	2.6%	1,822
	Neuberger Berman Genesis Tr	\$14,349,912	2.9%	1,766
	Vanguard Small Cap Index Instl	\$7,059,597	1.4%	687
	Vanguard Small Cap Growth Index Instl	\$10,352,272	2.1%	1,235
	Total U.S. Equity Funds	\$152,234,598	31%	
6	American Funds New Perspective R6	\$16,107,057	3.2%	1,348
	Franklin Mutual Global Discovery Z	\$9,490,889	1.9%	843
	Dodge & Cox International Stock	\$10,446,351	2.1%	1,467
	Vanguard Total Intl Stock Index Adm	\$463,123	<1%	33
	Artisan International Inv	\$2,613,474	<1%	460
	Oppenheimer Developing Markets Y	\$1,477,128	<1%	251
	Total International Equity Funds	\$40,598,023	8%	
TOTAL		\$498,802,986		

Range of Investment Options

Lower Expected Risk/ Lower Expected Return			Higher Expected Risk/ Higher Expected Return		
Stable Value	Fixed Income/ Bond	Target Date/ Balanced	Domestic Equity		
1. State of Montana Stable Value	1. Prudential Total Return Bond Q	1. Vanguard Balanced Idx Instl	Large Value	Large Blend	Large Growth
	2. Neuberger Berman High Income Bond Instl	2. T. Rowe Price Retirement Series (12)	1. Vanguard Equity Income Adm	1. Vanguard Instl Idx I 2. Parnassus Core Equity Instl*	1. Fidelity Contrafund
			Mid Value	Mid Blend	Mid Growth
			1. MFS Mid Cap Value R6	1. Vanguard Mid Cap Idx Adm	1. Janus Henderson Enterprise N
			Small Value	Small Blend	Small Growth
			1. Neuberger Berman Genesis Tr	1. Vanguard Small Cap Idx Instl	1. Vanguard Small Cap Growth Idx Instl
					1. American Funds New Perspective R6 2. Franklin Mutual Global Discovery Z* 3. Dodge & Cox Intl Stock 4. Vanguard Total Intl Stock Index Adm 5. Artisan Intl Inv* 5. Oppenheimer Developing Mkts Y
					Other

*Placed on probation 10/26/17

Net-of-Fee Total Returns and Standard Deviations

As of March 31, 2018

Fund/Benchmark	YTD	(periods longer than 1 year are annualized)						Standard Deviation		Expense Ratio
	4/11/18	3 Months	YTD	1 Year	3 Years	5 Years	10 Years	3 Years	5 Years	
State of Montana Stable Value (net)	-	-1.22	-1.22	0.39	0.85	0.80	2.62	-	-	0.40
Barclays US Govt/Credit Interm	-1.01	-0.98	-0.98	0.35	0.94	1.25	2.92	1.99	2.17	-
Prudential Total Return Bond Q	-1.40	-1.35	-1.35	3.37	2.62	3.16	5.78	3.32	3.76	0.42
Barclays US Agg Bond	-1.49	-1.46	-1.46	1.20	1.20	1.82	3.63	2.69	2.93	-
Avg Intermediate-Term Bond	-1.30	-1.31	-1.31	1.31	1.27	1.73	3.80	2.64	2.92	0.77
Neuberger Berman High Income Bond Instl	-0.34	-1.09	-1.09	1.95	3.50	3.84	7.70	5.00	5.13	0.70
BofAML US HY Master II Constnd	-0.12	-0.91	-0.91	3.70	5.19	5.02	8.18	5.63	5.27	-
Avg High Yield Bond	-0.38	-0.97	-0.97	3.20	3.88	3.82	6.66	5.20	5.17	1.04

Green indicates fund outperformed both benchmarks / Blue indicates fund performed between benchmarks / Red indicates fund underperformed both benchmarks

Net-of-Fee Total Returns and Standard Deviations

As of March 31, 2018

Fund/Benchmark	YTD	(periods longer than 1 year are annualized)						Standard Deviation		Expense Ratio
	4/11/18	3 Months	YTD	1 Yr	3 Yr	5 Yr	10 Yr	3 Yr	5 Yr	
T. Rowe Price Retirement Balanced	-0.07	-0.22	-0.22	6.50	4.67	5.01	5.25	4.63	4.62	0.56
DJ Target Today	0.32	0.19	0.19	4.25	2.47	2.61	3.89	2.54	2.89	-
Avg Allocation - 30% to 50% Equity	-0.90	-1.21	-1.21	5.40	3.70	4.65	5.00	5.19	5.13	1.16
T. Rowe Price Retirement 2005	-0.22	-0.44	-0.44	6.53	4.72	5.33	5.52	4.77	4.86	0.58
DJ Target 2005	0.32	0.18	0.18	4.29	2.49	2.64	3.80	2.55	2.91	-
Avg Target Date 2000-2010	-0.49	-0.71	-0.71	5.94	4.11	5.06	4.77	4.78	4.80	0.73
T. Rowe Price Retirement 2010	-0.16	-0.38	-0.38	7.22	5.13	5.95	5.81	5.21	5.31	0.57
DJ Target 2010	0.32	0.19	0.19	4.44	2.62	2.96	3.85	2.80	3.15	-
Avg Target Date 2000-2010	-0.49	-0.71	-0.71	5.94	4.11	5.06	4.77	4.78	4.80	0.73
T. Rowe Price Retirement 2015	-0.07	-0.27	-0.27	8.45	5.72	6.91	6.36	6.01	6.09	0.59
DJ Target 2015	0.30	0.15	0.15	5.41	3.32	3.77	4.27	3.56	3.74	-
Avg Target Date 2015	-0.53	-0.74	-0.74	6.87	4.43	5.55	5.06	5.30	5.39	0.74
T. Rowe Price Retirement 2020	0.09	-0.09	-0.09	10.13	6.50	7.92	6.87	6.91	6.88	0.63
DJ Target 2020	0.29	0.10	0.10	6.96	4.14	4.86	4.85	4.24	4.43	-
Avg Target Date 2020	-0.54	-0.81	-0.81	7.60	4.65	5.74	5.16	5.74	5.70	0.81
T. Rowe Price Retirement 2025	0.23	0.06	0.06	11.49	7.12	8.80	7.27	7.69	7.61	0.67
DJ Target 2025	0.34	0.10	0.10	8.34	5.00	6.00	5.52	5.22	5.37	-
Avg Target Date 2025	-0.47	-0.75	-0.75	9.10	5.42	6.69	5.74	6.70	6.64	0.79
T. Rowe Price Retirement 2030	0.35	0.15	0.15	12.77	7.71	9.55	7.64	8.38	8.21	0.69
DJ Target 2030	0.34	0.06	0.06	9.93	5.97	7.20	6.19	6.48	6.51	-
Avg Target Date 2030	-0.44	-0.75	-0.75	10.37	6.07	7.36	5.86	7.58	7.43	0.83

Net-of-Fee Total Returns and Standard Deviations

As of March 31, 2018

Fund/Benchmark	YTD	(periods longer than 1 year are annualized)						Standard Deviation		Expense Ratio
	4/11/18	3 Months	YTD	1 Yr	3 Yr	5 Yr	10 Yr	3 Yr	5 Yr	
T. Rowe Price Retirement 2035	0.42	0.26	0.26	13.73	8.12	10.11	7.89	8.98	8.74	0.72
DJ Target 2035	0.33	0.00	0.00	11.35	6.71	8.19	6.73	7.74	7.62	-
Avg Target Date 2035	-0.30	-0.61	-0.61	11.73	6.73	8.16	6.35	8.43	8.25	0.81
T. Rowe Price Retirement 2040	0.51	0.37	0.37	14.57	8.47	10.51	8.12	9.47	9.16	0.74
DJ Target 2040	0.31	-0.05	-0.05	12.53	7.33	8.96	7.18	8.77	8.51	-
Avg Target Date 2040	-0.32	-0.66	-0.66	12.42	7.04	8.48	6.33	8.91	8.65	0.85
T. Rowe Price Retirement 2045	0.60	0.43	0.43	14.85	8.62	10.61	8.17	9.53	9.20	0.74
DJ Target 2045	0.30	-0.10	-0.10	13.36	7.77	9.46	7.48	9.45	9.09	-
Avg Target Date 2045	-0.20	-0.54	-0.54	13.18	7.38	8.89	6.57	9.32	9.05	0.82
T. Rowe Price Retirement 2050	0.58	0.45	0.45	14.97	8.65	10.63	8.17	9.54	9.19	0.74
DJ Target 2050	0.29	-0.12	-0.12	13.76	7.99	9.63	7.58	9.72	9.28	-
Avg Target Date 2050	-0.28	-0.62	-0.62	13.25	7.41	8.91	6.57	9.38	9.11	0.85
T. Rowe Price Retirement 2055	0.58	0.39	0.39	14.78	8.61	10.60	8.15	9.54	9.21	0.74
DJ Target 2055	0.28	-0.12	-0.12	13.79	8.01	9.64	7.58	9.72	9.29	-
Avg Target Date 2055	-0.17	-0.52	-0.52	13.61	7.61	9.23	7.04	9.53	9.21	0.82
Vanguard Balanced Index Instl	-0.76	-0.87	-0.87	8.75	6.65	8.52	7.60	6.19	6.01	0.06
Custom Vanguard Bal Index ⁽¹⁾	-0.73	-0.84	-0.84	8.83	6.78	8.66	7.89	6.18	6.01	-
Avg Allocation - 50% to 70% Equity	-0.98	-1.26	-1.26	7.78	4.89	6.55	6.06	7.12	6.96	1.15
Barclays US Agg Bond	-1.49	-1.46	-1.46	1.20	1.20	1.82	3.63	2.69	2.93	-
S&P 500	-0.64	-0.76	-0.76	13.99	10.78	13.31	9.49	10.26	9.87	-

⁽¹⁾ Reflects fund's index changes over time. 60% DJ US Total Market Index/40% Barclays US Agg Float Adj Index since 1/14/13.

Net-of-Fee Total Returns and Standard Deviations

As of March 31, 2018

Fund/Benchmark	YTD	(periods longer than 1 year are annualized)						Standard Deviation		Expense Ratio
	4/11/18	3 Months	YTD	1 Year	3 Years	5 Years	10 Years	3 Years	5 Years	
Vanguard Equity-Income Adm	-2.21	-2.54	-2.54	10.45	10.19	11.75	9.40	9.49	9.27	0.17
Russell 1000 Value	-2.64	-2.83	-2.83	6.95	7.88	10.78	7.78	10.39	10.03	-
Avg Large Value	-2.15	-2.55	-2.55	9.07	7.65	10.32	7.66	10.91	10.43	1.03
Parnassus Core Equity Institutional	-0.23	-0.21	-0.21	11.62	8.98	11.89	10.61	8.96	9.15	0.64
Vanguard Institutional Index I	-0.66	-0.77	-0.77	13.96	10.75	13.28	9.50	10.26	9.87	0.04
S&P 500	-0.64	-0.76	-0.76	13.99	10.78	13.31	9.49	10.26	9.87	-
Avg Large Blend	-0.94	-0.98	-0.98	12.82	8.89	11.72	8.58	10.57	10.25	0.99
Fidelity Contrafund	3.39	3.06	3.06	23.77	12.95	15.08	10.59	11.19	10.59	0.74
S&P 500	-0.64	-0.76	-0.76	13.99	10.78	13.31	9.49	10.26	9.87	-
Avg Large Growth	2.26	2.30	2.30	20.41	10.64	13.81	9.87	11.81	11.34	1.11
MFS Mid Cap Value R6	-1.60	-1.89	-1.89	7.81	6.93	11.04	9.75	10.53	10.47	0.70
Russell Mid Cap Value	-2.50	-2.50	-2.50	6.50	7.23	11.11	9.81	10.76	10.27	-
Avg Mid Value	-1.90	-2.21	-2.21	7.30	6.75	10.06	8.87	11.59	11.21	1.12
Vanguard Mid Cap Index Adm	-0.20	0.01	0.01	12.31	7.86	12.26	10.14	10.60	10.38	0.05
Custom Vanguard MC Index ⁽¹⁾	-0.19	0.03	0.03	12.36	7.90	12.31	10.18	10.61	10.38	-
Avg Mid Blend	-1.01	-1.03	-1.03	10.13	6.51	10.43	8.88	11.43	11.30	1.08
Janus Henderson Enterprise N	4.08	4.96	4.96	24.03	12.98	15.69	11.52	10.18	9.70	0.67
Russell Mid Cap Growth	1.49	2.17	2.17	19.74	9.17	13.31	10.61	10.99	10.90	-
Avg Mid Growth	1.86	2.15	2.15	18.34	8.28	11.94	9.39	11.81	11.70	1.20

⁽¹⁾ Reflects changes to fund's index over time. S&P MidCap 400 Index through 5/15/2003; MSCI US MidCap 450 Index through 1/30/2013; and the CRSP US Mid Cap Index thereafter.

Net-of-Fee Total Returns and Standard Deviations

As of March 31, 2018

Fund/Benchmark	YTD	(periods longer than 1 year are annualized)						Standard Deviation		Expense Ratio
	4/11/18	3 Months	YTD	1 Year	3 Years	5 Years	10 Years	3 Years	5 Years	
Neuberger Berman Genesis Tr	0.29	0.64	0.64	12.91	9.64	11.01	8.74	11.16	11.48	1.08
Russell 2000	1.07	-0.08	-0.08	11.79	8.39	11.47	9.84	13.89	13.82	-
Avg Small Value	-1.67	-2.75	-2.75	5.71	6.67	9.10	8.74	14.38	14.11	1.27
Vanguard Small Cap Index Instl	0.28	-0.21	-0.21	11.83	8.07	11.67	10.74	12.13	12.08	0.04
Custom Vanguard SC Index ⁽¹⁾	0.27	-0.22	-0.22	11.80	8.03	11.65	10.65	12.13	12.08	-
Avg Small Blend	-0.16	-0.93	-0.93	9.68	7.21	10.29	9.15	13.35	13.36	1.17
Vanguard Small Cap Growth Index Instl	2.57	2.09	2.09	17.41	8.13	11.45	11.00	12.40	12.30	0.06
Custom Vanguard SC Growth Index ⁽²⁾	2.58	2.09	2.09	17.38	8.06	11.34	10.77	12.39	12.29	-
Avg Small Growth	3.09	2.28	2.28	18.07	8.77	11.88	10.28	13.61	13.73	1.26
American Funds New Perspective R6	2.85	2.20	2.20	20.57	10.85	12.07	8.23	11.01	10.54	0.45
MSCI ACWI	-0.19	-0.96	-0.96	14.85	8.12	9.20	5.57	10.88	10.35	-
Franklin Mutual Global Discovery Z	-1.11	-2.68	-2.68	2.36	4.15	7.35	6.23	9.69	9.02	0.96
MSCI World	-0.46	-1.28	-1.28	13.59	7.97	9.70	5.90	10.62	10.20	-
Avg World Large Stock	0.14	-0.44	-0.44	14.93	7.77	9.21	5.76	10.97	10.72	1.18
Dodge & Cox International Stock	-0.95	-2.14	-2.14	10.96	3.76	7.26	4.13	14.85	13.78	0.63
MSCI EAFE	0.31	-1.53	-1.53	14.80	5.55	6.50	2.74	12.25	11.91	-
Vanguard Total Intl Stock Index Adm	0.46	-0.46	-0.46	17.05	6.92	6.41	2.83	11.72	11.54	0.11
Custom Vanguard Intl Index ⁽³⁾	0.34	-1.14	-1.14	16.73	6.78	6.39	2.84	12.30	11.74	-
Avg Foreign Large Blend	0.22	-0.86	-0.86	15.20	5.75	6.21	2.64	11.72	11.51	1.05
Artisan International Inv	0.99	0.30	0.30	20.58	3.07	5.94	3.84	12.81	12.15	1.18
MSCI EAFE	0.31	-1.53	-1.53	14.80	5.55	6.50	2.74	12.25	11.91	-
Avg Foreign Large Growth	0.98	0.20	0.20	20.06	7.35	7.62	3.90	11.97	11.63	1.18
Oppenheimer Developing Markets Y	2.91	2.98	2.98	25.30	9.18	5.87	5.96	14.83	14.31	1.06
MSCI EM	1.87	1.42	1.42	24.93	8.81	4.99	3.02	16.46	14.97	-
Avg Diversified Emerging Mkts	1.71	2.01	2.01	22.90	8.23	4.45	3.03	15.10	14.30	1.40

⁽¹⁾ Reflects changes to fund's index over time. Russell 2000 Index through 5/16/03; MSCI US Small Cap 1750 Index through 1/30/13; and the CRSP US Small Cap Index thereafter.

⁽²⁾ Reflects changes to fund's index over time. S&P SmallCap 600 Growth Index through 5/16/03; MSCI US Small Cap Growth Index through 4/16/13; and the CRSP US Small Cap Growth Index thereafter.

⁽³⁾ Reflects changes to fund's index over time. MSCI EAFE & EM Index through 12/15/10; MSCI ACWI ex US Index through 6/02/13; and the FTSE Global All Cap ex US Index thereafter.

Modern Portfolio Theory (MPT) Analytics

As of March 31, 2018

Fund/Benchmark	5 - Year						10 Year Batting Average
	Alpha	Beta	Tracking Error	Information Ratio	Upside Capture	Downside Capture	
Vanguard Equity-Income Adm	-0.28	0.91	2.59	-0.60	92	96	43
Avg Large Value	-2.28	0.97	4.05	-0.79	90	107	43
Parnassus Core Equity Institutional	0.19	0.88	3.12	-0.45	90	90	49
Vanguard Institutional Index I	-0.03	1.00	0.01	-2.77	100	100	35
Avg Large Blend	-1.31	0.99	2.64	-1.29	95	105	42
Fidelity Contrafund	2.14	0.96	4.72	0.38	102	85	54
Avg Large Growth	0.26	1.03	4.91	0.07	102	100	51
MFS Mid Cap Value R6	-1.47	0.96	4.49	-0.51	91	101	54
Avg Mid Value	-2.49	0.98	5.78	-0.56	89	108	49
Vanguard Mid Cap Index Adm	-0.72	0.99	3.59	-0.29	95	99	56
Avg Mid Blend	-2.28	0.99	5.73	-0.49	91	108	50
Janus Henderson Enterprise N	3.89	0.86	4.90	0.49	97	69	55
Avg Mid Growth	-1.01	1.00	6.23	-0.24	96	104	52
Neuberger Berman Genesis Tr	-1.18	0.94	6.74	-0.34	90	99	50
Avg Small Value	-3.54	1.02	9.90	-0.44	90	120	49
Vanguard Small Cap Index Instl	-1.63	1.03	6.49	-0.25	98	113	55
Avg Small Blend	-2.59	1.02	8.76	-0.35	93	115	50
Vanguard Small Cap Growth Index Instl	-1.57	1.01	7.14	-0.26	97	113	57
Avg Small Growth	-1.00	1.01	9.34	-0.16	98	111	53
American Funds New Perspective R6	6.71	0.81	4.79	1.29	99	58	55
Franklin Mutual Global Discovery Z	3.23	0.65	6.37	0.23	73	52	53
Avg World Large Stock	4.21	0.80	5.68	0.59	91	66	54
Dodge & Cox International Stock	0.95	1.10	4.65	0.30	113	109	54
Vanguard Total Intl Stock Index Adm	0.68	0.96	1.63	0.32	99	95	48
Avg Foreign Large Blend	0.76	0.92	3.78	0.10	94	89	49
Artisan International Inv	0.60	0.92	5.52	0.01	95	92	49
Avg Foreign Large Growth	2.21	0.90	4.76	0.35	96	82	52
Oppenheimer Developing Markets Y	-0.17	1.08	6.43	0.00	106	109	60
Avg Diversified Emerging Mkts	-1.13	1.01	7.82	-0.18	99	108	52

Reported modern portfolio theory (MPT) statistics are calculated with respect to the S&P 500 Index for domestic equity funds and the MSCI EAFE Index for international equity funds.

Stable Value and Bond Funds

Annual Net-of-Fee Total Returns

Fund/Benchmark	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
State of Montana Stable Value	-	2.13	0.84	2.15	-1.95	4.82	5.04	6.47	13.71	-3.45
Barclays US Govt/Credit Interm	2.14	2.08	1.07	3.13	-0.86	3.89	5.80	5.89	5.24	5.08
Prudential Total Return Bond Q	6.71	4.83	0.09	7.25	-0.91	9.96	7.93	9.73	19.68	-3.55
Barclays US Agg Bond	3.54	2.65	0.55	5.97	-2.02	4.21	7.84	6.54	5.93	5.24
Avg Intermediate-Term Bond	3.71	3.23	-0.26	5.18	-1.42	7.01	5.86	7.72	13.97	-4.70
Neuberger Berman High Income Bond Instl	5.46	14.17	-4.77	1.51	7.57	14.64	3.12	14.71	52.16	-19.09
BofAML US HY Master II Constnd	7.48	17.49	-4.61	2.51	7.41	15.55	4.37	15.07	58.10	-26.11
Avg High Yield Bond	6.47	13.30	-4.01	1.11	6.90	14.67	2.83	14.24	46.70	-26.41

Green indicates fund outperformed both benchmarks / Blue indicates fund performed between benchmarks / Red indicates fund underperformed both benchmarks

Target Date Funds

Annual Net-of-Fee Total Returns

Fund/Benchmark	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
T. Rowe Price Retirement Balanced	10.36	6.48	-0.74	3.91	9.15	10.05	1.43	10.10	22.07	-18.39
DJ Target Today	5.73	3.01	-0.63	3.86	1.41	5.44	5.26	8.53	10.83	-3.06
Avg Allocation - 30% to 50% Equity	9.86	6.62	-2.32	4.02	7.23	9.40	1.70	10.03	20.77	-18.61
T. Rowe Price Retirement 2005	10.67	6.72	-0.75	4.72	9.74	11.35	1.43	11.51	24.55	-22.24
DJ Target 2005	5.78	3.00	-0.63	3.92	1.54	5.66	5.15	8.90	11.89	-5.47
Avg Target Date 2000-2010	10.15	5.86	-1.18	4.10	8.30	9.61	0.91	10.68	22.42	-22.46
T. Rowe Price Retirement 2010	11.66	7.11	-0.76	4.99	11.93	12.44	0.54	12.70	27.95	-26.71
DJ Target 2010	6.07	3.33	-0.72	4.20	3.00	6.40	4.49	9.71	14.11	-10.81
Avg Target Date 2000-2010	10.15	5.86	-1.18	4.10	8.30	9.61	0.91	10.68	22.42	-22.46
T. Rowe Price Retirement 2015	13.34	7.31	-0.58	5.37	15.18	13.81	-0.32	13.79	31.35	-30.22
DJ Target 2015	7.59	4.51	-0.97	4.48	5.49	7.65	3.42	10.94	17.32	-16.65
Avg Target Date 2015	11.29	6.12	-1.34	4.48	9.65	10.65	-0.27	11.50	23.55	-27.76
T. Rowe Price Retirement 2020	15.74	7.41	-0.31	5.63	18.05	15.01	-1.20	14.74	34.19	-33.48
DJ Target 2020	9.89	5.27	-1.04	4.81	9.05	9.23	2.01	12.42	20.95	-22.31
Avg Target Date 2020	12.46	6.23	-1.57	4.72	11.57	11.68	-0.22	12.27	24.25	-29.46
T. Rowe Price Retirement 2025	17.68	7.55	-0.17	5.84	20.78	16.00	-2.06	15.37	36.29	-35.90
DJ Target 2025	12.02	6.39	-1.11	5.14	12.84	10.94	0.49	14.12	25.36	-27.61
Avg Target Date 2025	14.67	6.73	-1.59	5.07	15.30	13.03	-2.06	13.29	28.32	-34.15
T. Rowe Price Retirement 2030	19.45	7.69	-0.02	6.05	23.09	16.82	-2.70	16.01	37.99	-37.79
DJ Target 2030	14.64	7.50	-1.21	5.50	16.59	12.56	-1.20	15.67	29.50	-32.02
Avg Target Date 2030	16.57	7.33	-1.79	5.04	16.65	13.59	-2.26	13.47	28.87	-36.04

Target Date Funds

Annual Net-of-Fee Total Returns

Fund/Benchmark	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
T. Rowe Price Retirement 2035	20.88	7.64	0.13	6.07	24.86	17.35	-3.26	16.34	39.04	-38.88
DJ Target 2035	16.99	8.49	-1.61	5.80	19.90	13.92	-2.62	16.89	32.71	-35.15
Avg Target Date 2035	18.43	7.57	-1.76	5.24	20.00	14.64	-3.51	14.28	30.06	-37.04
T. Rowe Price Retirement 2040	22.02	7.63	0.17	6.18	25.93	17.55	-3.49	16.51	39.07	-38.85
DJ Target 2040	18.97	9.30	-1.94	6.03	22.38	14.88	-3.59	17.67	34.64	-36.80
Avg Target Date 2040	19.52	7.95	-1.99	5.25	19.97	14.64	-3.49	14.37	30.90	-37.94
T. Rowe Price Retirement 2045	22.41	7.69	0.17	6.14	25.93	17.62	-3.47	16.44	39.10	-38.83
DJ Target 2045	20.36	9.85	-2.15	6.16	23.71	15.32	-3.99	17.95	35.09	-37.03
Avg Target Date 2045	20.51	7.93	-1.87	5.35	22.00	15.31	-4.10	14.60	30.88	-38.11
T. Rowe Price Retirement 2050	22.38	7.71	0.19	6.19	25.90	17.55	-3.36	16.41	38.92	-38.80
DJ Target 2050	21.02	10.10	-2.23	6.19	23.89	15.35	-4.00	17.95	35.09	-37.03
Avg Target Date 2050	20.67	8.22	-2.01	5.42	21.02	15.07	-3.82	14.53	32.02	-38.67
T. Rowe Price Retirement 2055	22.33	7.73	0.18	6.18	25.86	17.60	-3.35	16.41	38.97	-38.89
DJ Target 2055	21.06	10.11	-2.23	6.19	23.89	15.35	-4.00	17.95	35.09	-37.03
Avg Target Date 2055	21.08	8.00	-1.71	5.49	23.14	15.52	-4.13	14.45	32.20	-38.86
Vanguard Balanced Index Instl	13.86	8.81	0.52	10.00	18.11	11.51	4.31	13.34	20.18	-22.10
Custom Vanguard Bal Index	13.93	8.89	0.76	10.06	18.25	11.71	4.66	13.45	20.34	-20.94
Avg Allocation - 50% to 70% Equity	13.21	7.34	-1.93	6.21	16.48	11.72	-0.11	11.83	24.13	-28.00
Barclays US Agg Bond	3.54	2.65	0.55	5.97	-2.02	4.21	7.84	6.54	5.93	5.24
S&P 500	21.83	11.96	1.38	13.69	32.39	16.00	2.11	15.06	26.46	-37.00

Large and Mid-Cap Stock Funds

Annual Net-of-Fee Total Returns

Fund/Benchmark	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
Vanguard Equity-Income Adm	18.49	14.82	0.86	11.38	30.19	13.58	10.69	14.99	17.26	-30.86
Russell 1000 Value	13.66	17.34	-3.83	13.45	32.53	17.51	0.39	15.51	19.69	-36.85
Avg Large Value	15.94	14.81	-4.05	10.21	31.21	14.57	-0.75	13.66	24.13	-37.09
Parnassus Core Equity Institutional	16.81	10.60	-0.33	14.70	34.15	15.64	3.38	9.10	28.96	-22.74
Vanguard Institutional Index I	21.79	11.93	1.37	13.65	32.35	15.98	2.09	15.05	26.63	-36.95
S&P 500	21.83	11.96	1.38	13.69	32.39	16.00	2.11	15.06	26.46	-37.00
Avg Large Blend	20.44	10.37	-1.07	10.96	31.50	14.96	-1.27	14.01	28.17	-37.79
Fidelity Contrafund	32.26	3.36	6.46	9.56	34.15	16.26	-0.14	16.93	29.23	-37.16
S&P 500	21.83	11.96	1.38	13.69	32.39	16.00	2.11	15.06	26.46	-37.00
Avg Large Growth	27.67	3.23	3.60	10.00	33.92	15.34	-2.46	15.53	35.68	-40.67
MFS Mid Cap Value R6	13.84	15.86	-2.14	10.29	36.63	18.52	-2.04	27.08	39.75	-41.90
Russell Mid Cap Value	13.34	20.00	-4.78	14.75	33.46	18.51	-1.38	24.75	34.21	-38.44
Avg Mid Value	13.22	18.06	-5.41	9.31	35.14	16.60	-3.96	21.92	35.41	-36.77
Vanguard Mid Cap Index Adm	19.25	11.22	-1.34	13.76	35.15	15.99	-1.97	25.59	40.48	-41.78
Custom Vanguard MC Index	19.30	11.25	-1.28	13.83	35.21	16.04	-1.91	25.69	40.49	-41.80
Avg Mid Blend	15.93	14.14	-4.75	7.80	34.10	16.15	-3.81	22.52	37.39	-39.18
Janus Henderson Enterprise N	26.65	12.18	3.57	12.19	30.94	17.79	-1.78	25.93	42.90	-43.13
Russell Mid Cap Growth	25.27	7.33	-0.20	11.90	35.74	15.81	-1.65	26.38	46.29	-44.32
Avg Mid Growth	23.91	6.03	-0.95	7.00	34.93	14.07	-3.96	24.61	39.11	-43.77

Small Cap and International Stock Funds

Annual Net-of-Fee Total Returns

Fund/Benchmark	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
Neuberger Berman Genesis Tr	15.50	18.06	0.15	-0.31	36.89	9.82	4.60	21.38	26.25	-32.85
Russell 2000	14.65	21.31	-4.41	4.89	38.82	16.35	-4.18	26.85	27.17	-33.79
Avg Small Value	8.54	25.99	-6.71	3.34	36.22	16.00	-4.45	26.17	31.32	-32.24
Vanguard Small Cap Index Instl	16.25	18.32	-3.63	7.53	37.80	18.26	-2.65	27.95	36.40	-35.98
Custom Vanguard SC Index	16.24	18.26	-3.68	7.54	37.77	18.20	-2.75	27.82	36.15	-36.20
Avg Small Blend	12.28	20.78	-5.38	3.79	37.39	15.46	-4.07	25.61	31.80	-36.56
Vanguard Small Cap Growth Index Instl	21.94	10.74	-2.52	4.04	38.20	17.68	-1.40	30.96	42.13	-39.91
Custom Vanguard SC Growth Index	21.90	10.62	-2.60	3.98	37.87	17.24	-1.64	30.58	41.79	-40.17
Avg Small Growth	21.50	11.20	-2.41	2.44	40.91	13.15	-3.55	26.98	35.46	-41.55
American Funds New Perspective R6	29.30	2.19	5.63	3.56	27.23	21.19	-7.33	13.11	37.73	-37.83
MSCI ACWI	23.97	7.86	-2.36	4.16	22.80	16.13	-7.35	12.67	34.63	-42.19
Franklin Mutual Global Discovery Z	9.84	12.86	-3.36	5.33	25.64	13.65	-2.68	11.37	21.31	-26.55
MSCI World	22.40	7.51	-0.87	4.94	26.68	15.83	-5.54	11.76	29.99	-40.71
Avg World Large Stock	23.61	5.54	-1.69	2.79	25.19	15.84	-7.93	13.74	35.27	-41.91
Dodge & Cox International Stock	23.94	8.26	-11.35	0.08	26.31	21.03	-15.97	13.69	47.46	-46.69
MSCI EAFE	25.03	1.00	-0.81	-4.90	22.78	17.32	-12.14	7.75	31.78	-43.38
Vanguard Total Intl Stock Index Adm	27.55	4.67	-4.26	-4.17	15.14	18.21	-14.52	11.04	36.73	-44.10
Custom Vanguard Intl Index	27.41	4.72	-4.29	-3.39	15.76	17.04	-14.31	10.70	40.44	-45.52
Avg Foreign Large Blend	25.12	0.79	-1.59	-4.98	19.44	18.29	-13.97	10.24	31.24	-43.99
Artisan International Inv	31.02	-9.66	-3.85	-0.97	25.18	25.39	-7.26	5.91	39.77	-46.96
MSCI EAFE	25.03	1.00	-0.81	-4.90	22.78	17.32	-12.14	7.75	31.78	-43.38
Avg Foreign Large Growth	30.87	-2.14	0.95	-3.92	18.58	17.70	-12.30	14.78	38.02	-46.56
Oppenheimer Developing Markets Y	35.10	7.17	-13.84	-4.55	8.68	21.29	-17.85	27.39	82.10	-47.84
MSCI EM	37.28	11.19	-14.92	-2.19	-2.60	18.22	-18.42	18.88	78.51	-53.33
Avg Diversified Emerging Mkts	34.17	8.47	-13.79	-3.01	-0.14	18.15	-19.86	19.26	73.81	-54.44

Peer Group Rankings

As of March 31, 2018

Yellow shading indicates above median performance in Morningstar peer group (1 = Best Ranking / 100 = Worst Ranking)

Fund	Morningstar Category	3 Mo	YTD	1 Yr	3 Yr	5 Yr	10 Yr
Prudential Total Return Bond Q	Intermediate-Term Bond	48	48	4	5	3	2
Neuberger Berman High Income Bond Instl	High Yield Bond	65	65	91	73	59	16
T. Rowe Price Retirement Balanced	Allocation - 30% to 50% Equity	8	8	31	17	37	40
T. Rowe Price Retirement 2005	Target Date 2000-2010	22	22	30	16	43	16
T. Rowe Price Retirement 2010	Target Date 2000-2010	12	12	11	2	14	3
T. Rowe Price Retirement 2015	Target Date 2015	8	8	11	2	3	1
T. Rowe Price Retirement 2020	Target Date 2020	5	5	3	1	1	1
T. Rowe Price Retirement 2025	Target Date 2025	4	4	3	1	2	1
T. Rowe Price Retirement 2030	Target Date 2030	3	3	6	4	3	1
T. Rowe Price Retirement 2035	Target Date 2035	3	3	8	5	3	1
T. Rowe Price Retirement 2040	Target Date 2040	4	4	6	6	3	1
T. Rowe Price Retirement 2045	Target Date 2045	5	5	6	5	3	1
T. Rowe Price Retirement 2050	Target Date 2050	5	5	9	5	3	1
T. Rowe Price Retirement 2055	Target Date 2055	6	6	14	6	4	1
Vanguard Balanced Index Instl	Allocation - 50% to 70% Equity	43	43	39	13	12	12

Peer Group Rankings

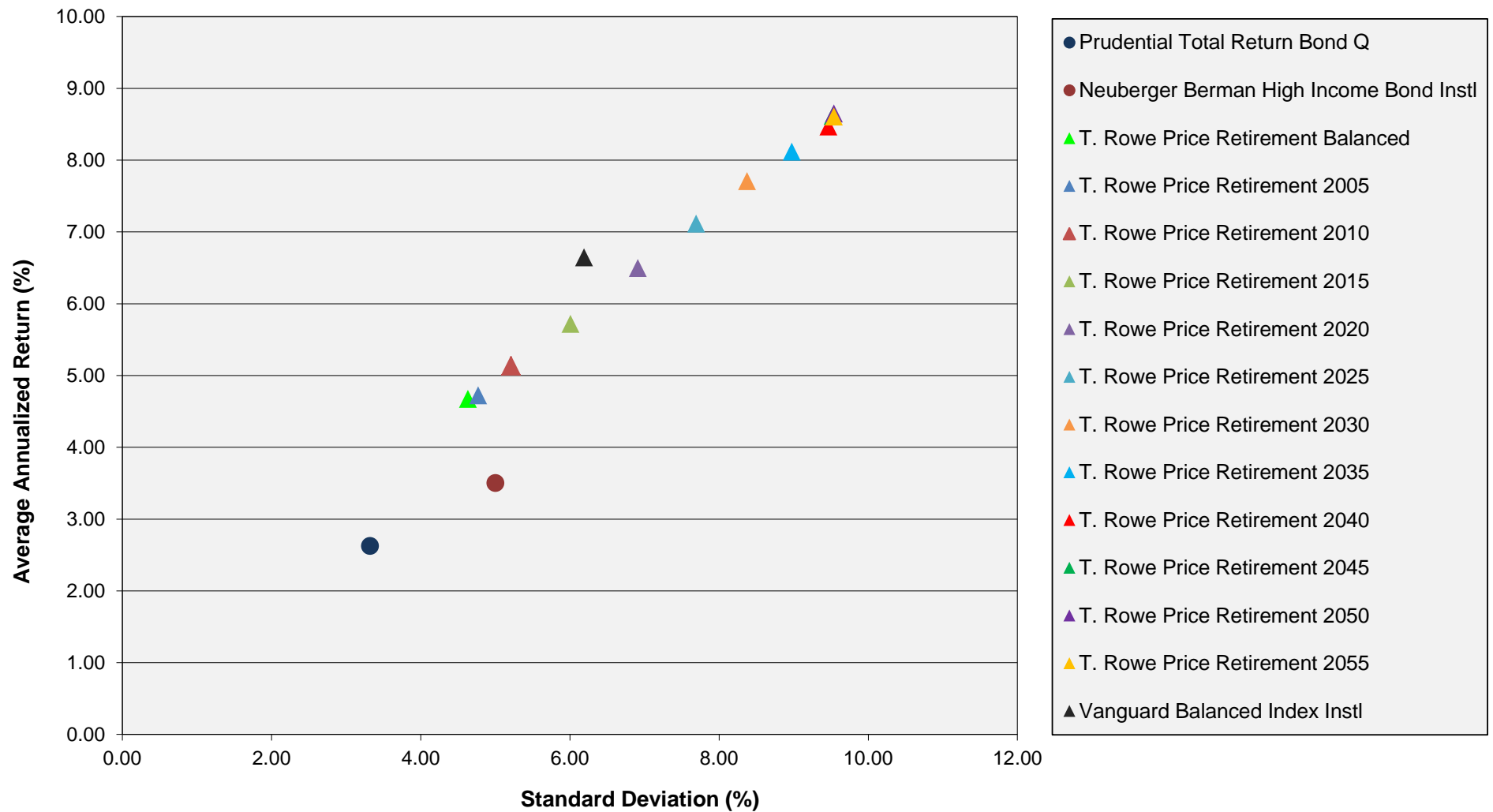
As of March 31, 2018

Yellow shading indicates above median performance in Morningstar peer group (1 = Best Ranking / 100 = Worst Ranking)

Fund	Morningstar Category	3 Mo	YTD	1 Yr	3 Yr	5 Yr	10 Yr
Vanguard Equity-Income Adm	Large Value	51	51	35	8	17	10
Parnassus Core Equity Institutional	Large Blend	22	22	71	57	59	5
Vanguard Institutional Index I	Large Blend	44	44	35	12	12	21
Fidelity Contrafund	Large Growth	35	35	26	21	32	36
MFS Mid Cap Value R6	Mid-Cap Value	41	41	38	53	30	34
Vanguard Mid Cap Index Adm	Mid-Cap Blend	21	21	30	39	16	32
Janus Henderson Enterprise N	Mid-Cap Growth	12	12	15	3	4	10
Neuberger Berman Genesis Tr	Small Growth	71	71	75	35	65	83
Vanguard Small Cap Index Instl	Small Blend	36	36	26	38	25	15
Vanguard Small Cap Growth Index Instl	Small Growth	52	52	49	60	58	34
American Funds New Perspective R6	World Large Stock	13	13	17	12	10	7
Franklin Mutual Global Discovery Z	World Large Stock	88	88	99	94	80	40
Dodge & Cox International Stock	Foreign Large Blend	90	90	92	91	23	14
Vanguard Total Intl Stock Index Adm	Foreign Large Blend	30	30	26	18	47	42
Artisan International Inv	Foreign Large Growth	36	36	41	99	86	49
Oppenheimer Developing Markets Y	Diversified Emerging Mkts	29	29	36	40	26	4

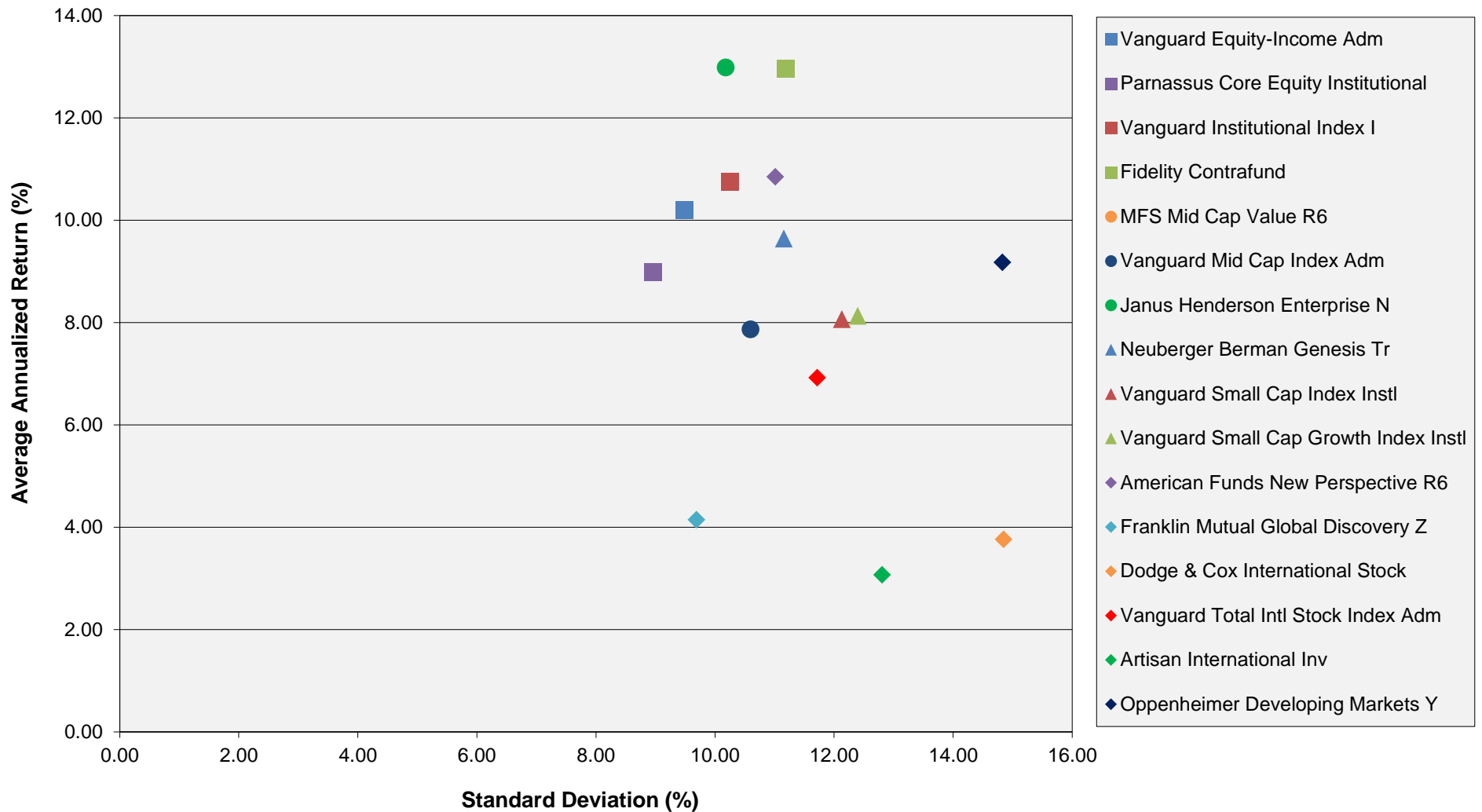
Three Year Risk/Return Profile

Bond and Target Date/Balanced Funds
As of March 31, 2018



Three Year Risk/Return Profile

Equity Funds
As of March 31, 2018



Stable Value Performance as of March 31, 2018

	Quarter	YTD	1 Year	Annualized			Management Fees	Wrap Fees
				3 Years	5 years	10 years		
Montana Stable Value (market, gross)	-1.22	-1.22	0.39	0.85	0.80	2.62	0.20	0.20
Barclays US Govt/Credit Interm	-0.98	-0.98	0.35	0.94	1.25	2.92	-	-

Stable Value Portfolio Characteristics as of March 31, 2018

	Yield-to Maturity (%)	Effective Duration (years)	Effective Maturity (years)	Average Credit Quality	Credit Quality Distribution (%)				
					Investment Grade				High Yield
					AAA	AA	A	BBB	Below BBB
Montana Stable Value	3.07	3.73	4.33	AA	70	0	15	15	0
Barclays US Govt/Credit Interm	2.84	3.93	4.31	AA	65	4	14	17	0

Market to Book Value Ratio

End of Month	Jun-14	Sep-14	Dec-14	Mar-15	Jun-15	Sep-15	Dec-15	Mar-16	Jun-16	Sep-16	Dec-16	Mar-17	Jun-17	Sep-17	Dec-17	Mar-18
Market-to-Book Value Ratio (%)	104.1	103.0	103.2	104.2	102.9	103.0	101.7	103.4	104.3	104.1	101.3	101.4	101.9	102.0	101.2	99.3

Fixed Income Portfolio Characteristics

As of March 31, 2018

Fund/Benchmark	Average Maturity (years)	Average Duration (years)	Average Credit Quality	Total Number of Holdings
Prudential Total Return Bond Q	-	6.46	BBB	2,611
BarCap Aggregate	8.1	5.9	AA	6,686
Avg Intermediate Term Bond	7.5	5.3	BBB	717
Neuberger Berman High Income Bond Instl	5.6	3.7	B	403
Avg High Yield Bond	5.4	3.3	B	564

Fund/Benchmark	Investment Grade				High Yield Bonds			Other
	AAA	AA	A	BBB	BB	B	Below B	NR/NA
Prudential Total Return Bond Q	44	7	15	19	5	5	0	5
BarCap Aggregate	72	3	11	14	0	0	0	0
Avg Intermediate Term Bond	48	8	18	20	3	1	1	1
Neuberger Berman High Income Bond Instl	1	0	0	7	49	33	7	3
Avg High Yield Bond	2	0	1	5	37	40	12	3

Equity Portfolio Style Characteristics

As of March 31, 2018

Vanguard Equity-
Income Adm

44	27	19
6	2	0
2	0	0

Parnassus Core
Equity Institutional

24	43	19
4	4	5
0	1	0

Vanguard
Institutional Index I

29	30	32
3	3	2
0	0	0

Fidelity Contrafund

12	14	66
0	1	6
0	0	0

MFS Mid Cap
Value R6

16	16	6
28	23	4
3	4	1

Vanguard Mid Cap
Index Adm

8	13	17
24	22	17
0	0	0

Janus Henderson
Enterprise N

0	6	16
3	23	45
1	2	3

Neuberger
Berman Genesis
Tr

0	0	1
1	9	30
7	21	32

Vanguard Small
Cap Index Instl

0	0	0
16	20	27
13	12	11

Vanguard Small
Cap Growth Index
Instl

0	0	0
4	17	49
3	9	19

American Funds
New Perspective
R6

13	23	55
1	3	5
0	0	0

Franklin Mutual
Global Discovery
Z

40	31	15
8	6	0
0	0	0

Dodge & Cox
International Stock

40	41	16
1	2	0
0	0	0

Vanguard Total Intl
Stock Index Adm

27	26	23
7	6	6
2	2	1

Artisan
International Inv

18	35	42
0	3	2
0	0	0

Oppenheimer
Developing
Markets Y

9	31	49
3	3	5
0	0	0

Style Legend

Large Value	Large Core	Large Growth	50% <	54
Mid Value	Mid Core	Mid Growth	25% <	27
Small Value	Small Core	Small Growth	10% <	19

Equity Portfolio Characteristics

As of March 31, 2018

Fund/Benchmark	Geo Avg Market Cap \$MM	P/E Ratio	P/B Ratio	Total Number of Holdings	% Assets in Top 10 Holdings	Turnover Ratio	% Non- US Equity	% Emerging Mkts Equity
Vanguard Equity-Income Adm	\$101,100	22.0	2.8	191	28	28	9	0
Russell 1000 Value	\$55,261	16.3	2.0	715	23			
Avg Large Value	\$101,961	17.8	2.3	-	33	58	5	0
Parnassus Core Equity Institutional	\$54,407	22.9	3.9	37	44	25	3	0
Vanguard Institutional Index I	\$100,151	21.8	3.2	512	21	5	1	0
S&P 500	\$92,743	20.8	3.1	505	20			
Avg Large Blend	\$153,346	20.7	3.1	-	49	52	3	1
Fidelity Contrafund	\$128,671	28.4	4.0	350	38	29	6	2
S&P 500	\$92,743	20.8	3.1	505	20			
Avg Large Growth	\$151,432	28.2	5.6	-	49	57	5	3
MFS Mid Cap Value R6	\$11,318	18.5	2.1	153	13	29	3	0
Russell Mid Cap Value	\$11,756	15.7	1.9	587	7			
Avg Mid Value	\$10,706	15.5	1.9	-	17	64	5	0
Vanguard Mid Cap Index Adm	\$14,296	21.8	2.7	343	7	14	1	0
CRSP US Mid Cap	\$14,359	20.7	2.7	343	7			
Avg Mid Blend	\$8,237	18.2	2.4	-	15	60	2	0
Janus Henderson Enterprise N	\$10,986	29.6	4.7	87	20	10	10	1
Russell Mid Cap Growth	\$13,941	25.9	5.4	427	10			
Avg Mid Growth	\$11,984	26.3	4.1	-	22	60	4	1

Equity Portfolio Characteristics

As of March 31, 2018

Fund/Benchmark	Geo Avg Market Cap \$MM	P/E Ratio	P/B Ratio	Total Number of Holdings	% Assets in Top 10 Holdings	Turnover Ratio	% Non- US Equity	% Emerging Mkts Equity
Neuberger Berman Genesis Tr	\$3,817	28.8	4.1	128	17	20	4	0
Russell 2000	\$1,930	19.9	2.2	1,985	4			
Avg Small Value	\$2,791	19.5	1.7	-	16	77	3	0
Vanguard Small Cap Index Instl	\$3,926	18.8	2.3	1,440	3	15	0	0
CRSP US Small Cap	\$3,863	17.6	2.3	1,402	3			
Avg Small Blend	\$2,972	21.5	2.4	-	15	63	2	0
Vanguard Small Cap Growth Index Instl	\$4,378	28.1	3.5	655	7	19	0	0
CRSP US Small Cap Growth	\$4,257	25.8	3.5	624	6			
Avg Small Growth	\$3,420	28.6	4.0	-	21	72	3	0
American Funds New Perspective R6	\$69,097	23.5	3.2	305	20	28	49	9
MSCI ACWI	\$54,951	17.3	2.2	2,495	10			
Franklin Mutual Global Discovery Z	\$53,729	15.9	1.6	134	21	18	39	2
MSCI World	\$59,051	17.8	2.2	1,649	11			
Avg World Large Stock	\$77,770	20.4	2.5	-	26	50	45	7
Dodge & Cox International Stock	\$47,898	18.1	1.4	86	28	17	92	22
MSCI EAFE	\$35,636	14.9	1.6	927	11			
Vanguard Total Intl Stock Index Adm	\$23,870	15.9	1.7	6,229	8	3	96	18
FTSE Global All Cap ex US	\$22,099	14.7	1.6	5,989	8			
Avg Foreign Large Blend	\$43,032	16.9	1.8	-	12	53	86	7
Artisan International Inv	\$50,372	21.5	2.6	74	35	58	89	11
MSCI EAFE	\$35,636	14.9	1.6	927	11			
Avg Foreign Large Growth	\$37,130	21.0	2.8	-	14	54	91	13
Oppenheimer Developing Markets Y	\$40,738	20.2	3.1	101	37	33	93	69
MSCI EM	\$30,614	14.3	1.7	846	25			
Avg Diversified Emerging Mkts	\$33,382	15.9	2.2	-	28	62	93	72

Equity Portfolio Sector Allocation

As of March 31, 2018

(yellow shading indicates largest sector allocation)

Fund/Benchmark	Energy	Materials	Industrials	Consumer Discretionary	Consumer Staples	Healthcare	Financials	Real Estate	Information Technology	Telecom Services	Utilities
Vanguard Equity-Income Adm	11.2	4.2	10.4	4.8	12.1	13.4	17.0	0.7	15.1	4.2	6.9
Russell 1000 Value	11.1	3.0	8.1	6.8	8.0	13.7	27.1	4.5	9.1	2.9	5.8
Avg Large Value	10.0	3.2	9.8	9.3	8.9	13.3	23.8	2.1	12.1	3.1	4.3
Parnassus Core Equity Institutional	1.0	6.4	13.0	11.5	14.9	17.4	7.6	3.6	20.2	0.0	4.3
Vanguard Institutional Index I	5.5	2.9	10.2	12.7	7.5	13.8	15.0	2.6	25.2	1.9	2.7
S&P 500	5.7	2.9	10.2	12.7	7.7	13.7	14.7	2.8	24.9	1.9	2.9
Avg Large Blend	5.7	2.9	11.8	13.1	8.4	14.0	16.9	2.7	20.7	1.4	2.3
Fidelity Contrafund	2.1	2.7	6.7	15.5	2.5	9.2	19.2	0.1	41.8	0.1	0.0
S&P 500	5.7	2.9	10.2	12.7	7.7	13.7	14.7	2.8	24.9	1.9	2.9
Avg Large Growth	2.1	2.5	11.1	16.7	5.5	13.8	5.6	1.8	40.3	0.3	0.4
MFS Mid Cap Value R6	7.0	6.1	13.8	10.9	6.7	6.8	24.1	5.2	11.5	0.0	7.9
Russell Mid Cap Value	8.3	5.7	12.0	11.9	3.9	6.3	20.9	13.5	6.8	0.5	10.2
Avg Mid Value	8.5	9.0	14.7	10.4	5.7	7.3	21.7	6.7	10.0	0.3	5.7
Vanguard Mid Cap Index Adm	5.0	6.1	13.4	16.2	4.2	9.0	15.2	6.7	19.1	0.6	4.5
CRSP US Mid Cap	5.7	5.8	13.5	15.2	4.2	9.2	14.8	6.8	19.3	0.6	4.8
Avg Mid Blend	4.9	7.7	15.2	13.4	3.8	9.0	16.6	7.1	18.0	0.5	3.6
Janus Henderson Enterprise N	0.4	1.7	17.4	10.5	0.0	18.9	9.0	4.1	38.0	0.0	0.0
Russell Mid Cap Growth	2.4	5.9	17.6	16.9	4.2	13.2	7.4	3.1	29.1	0.2	0.1
Avg Mid Growth	2.3	5.2	17.5	16.7	2.5	14.4	12.5	3.4	24.6	0.2	0.6

Equity Portfolio Sector Allocation

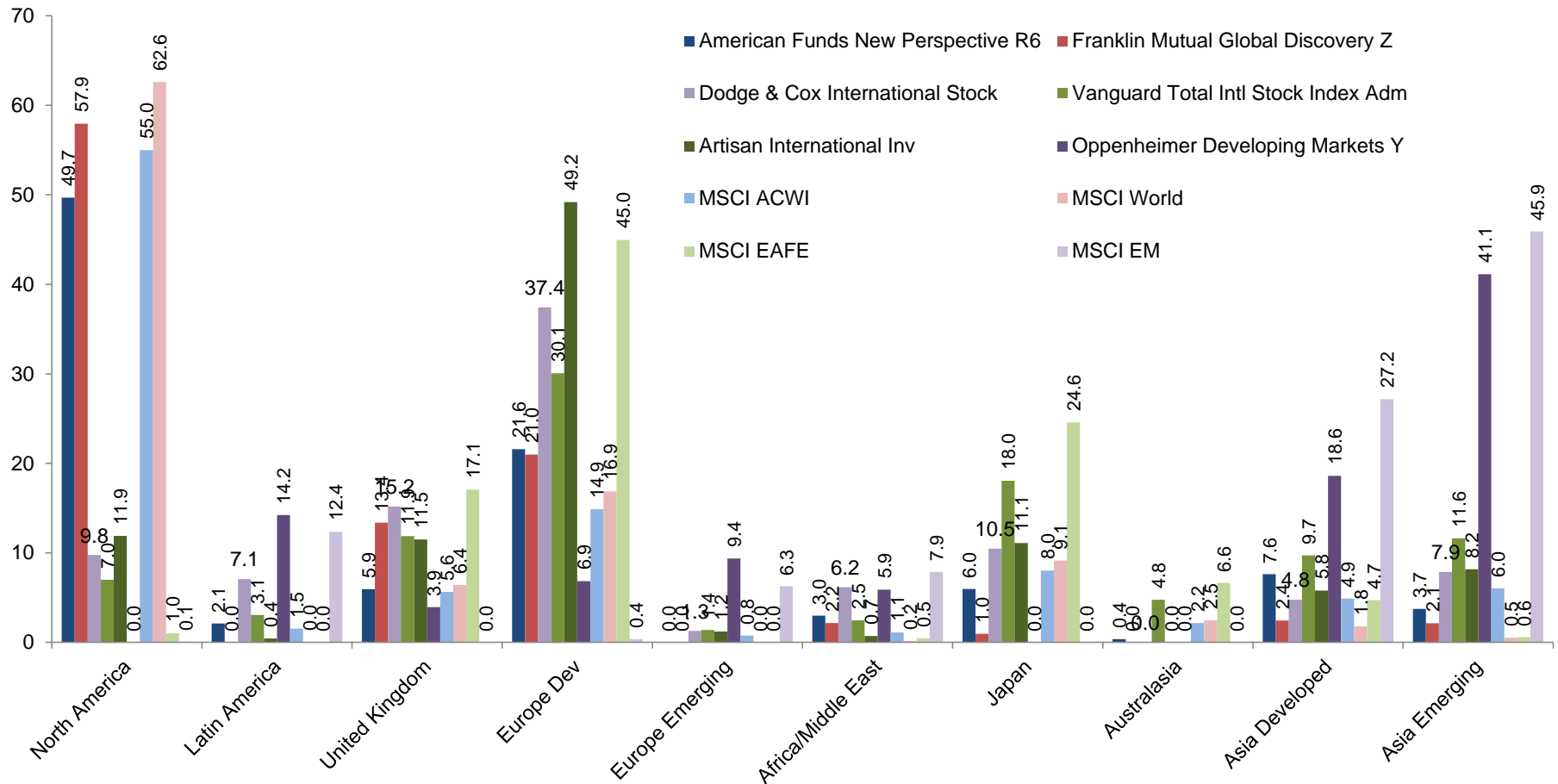
As of March 31, 2018

(yellow shading indicates largest sector allocation)

Fund/Benchmark	Energy	Materials	Industrials	Consumer Discretionary	Consumer Staples	Healthcare	Financials	Real Estate	Information Technology	Telecom Services	Utilities
Neuberger Berman Genesis Tr	2.5	7.3	20.0	13.2	6.4	12.0	17.1	0.5	20.9	0.0	0.0
Russell 2000	3.8	4.4	15.2	12.3	2.4	16.8	17.8	6.3	17.4	0.6	3.2
Avg Small Value	5.6	8.0	16.1	12.8	3.7	4.6	26.2	7.8	11.1	0.4	3.6
Vanguard Small Cap Index Instl	4.4	5.9	16.7	12.3	3.1	12.3	14.4	9.1	17.7	0.4	3.7
CRSP US Small Cap	4.6	5.7	16.4	12.3	3.0	11.6	15.0	9.5	17.6	0.4	3.8
Avg Small Blend	3.8	5.4	19.8	12.8	2.9	11.6	18.3	6.6	15.5	0.6	2.9
Vanguard Small Cap Growth Index Instl	4.8	2.7	16.0	13.5	2.4	19.3	6.0	9.9	24.8	0.3	0.3
CRSP US Small Cap Growth	4.8	2.8	15.8	13.7	2.4	18.1	6.5	9.8	25.3	0.3	0.3
Avg Small Growth	2.1	4.4	19.2	15.0	2.1	18.4	10.5	3.0	24.0	0.4	0.9
American Funds New Perspective R6	4.5	6.2	9.3	19.4	9.6	8.7	12.1	0.3	27.5	1.5	0.8
MSCI ACWI	6.4	5.2	10.8	12.3	8.4	10.8	18.5	3.1	18.8	2.9	2.9
Franklin Mutual Global Discovery Z	9.6	4.4	4.3	13.9	7.0	14.0	26.6	0.1	13.5	3.5	3.1
MSCI World	6.3	5.0	11.5	12.7	8.6	11.9	17.9	2.9	17.6	2.7	2.9
Avg World Large Stock	4.9	4.5	11.2	13.9	10.0	11.7	16.3	1.6	21.0	2.6	2.2
Dodge & Cox International Stock	7.7	6.2	7.4	15.7	1.1	15.7	28.4	0.6	12.5	3.3	1.3
MSCI EAFE	5.5	8.0	14.5	12.7	11.1	10.2	20.9	3.5	6.5	3.8	3.2
Vanguard Total Intl Stock Index Adm	6.3	8.7	13.3	12.0	9.0	7.7	21.9	3.8	10.8	3.6	2.8
FTSE Global All Cap ex US	6.4	8.5	13.1	11.9	9.1	7.7	21.8	3.9	11.2	3.5	3.0
Avg Foreign Large Blend	5.5	7.5	14.8	13.0	10.5	8.9	21.2	2.6	9.8	3.9	2.4
Artisan International Inv	0.9	11.2	15.3	4.8	13.7	5.4	28.9	0.0	18.3	1.5	0.0
MSCI EAFE	5.5	8.0	14.5	12.7	11.1	10.2	20.9	3.5	6.5	3.8	3.2
Avg Foreign Large Growth	2.9	6.1	16.1	14.5	11.9	9.0	18.0	1.0	18.5	1.3	0.7
Oppenheimer Developing Markets Y	4.0	7.0	5.5	15.8	10.2	6.9	23.1	2.1	25.0	0.4	0.0
MSCI EM	7.1	7.4	5.2	9.7	6.6	2.9	23.8	2.8	27.6	4.6	2.4
Avg Diversified Emerging Mkts	5.6	6.3	5.1	11.8	8.7	3.1	24.2	2.5	26.7	4.2	1.9

International Fund Regional Allocations

As of March 31, 2018



International Fund Country Allocations

As of March 31, 2018

	Argentina	Australia	Austria	Belgium	Brazil	Canada	Chile	China	Czech Republic	Denmark	Finland	France	Germany	Greece	Hong Kong	Hungary	India	Indonesia	Ireland	Israel	Italy	Japan	Malaysia	Mexico	Netherlands
American Funds New Perspective R6		0.4		0.5	1.5	1.9		2.0		1.7	0.4	6.3	2.1		2.3		1.5		0.8		0.5	6.0		0.6	4.2
MSCI ACWI		2.1		0.4	0.9	3.0	0.1	4.0		0.6	0.3	3.3	3.2		1.0		1.0	0.2	0.1	0.1	0.7	8.0	0.3	0.4	1.2
Franklin Mutual Global Discovery Z						0.6		2.1			1.2	4.1	3.1							2.2	1.7	1.0			6.1
MSCI World		2.4		0.4		3.4		0.5		0.7	0.4	3.8	3.6		1.1				0.1	0.2	0.8	9.1			1.4

	New Zealand	Norway	Pakistan	Philippines	Poland	Portugal	Russia	Singapore	Slovakia	South Africa	South Korea	Spain	Sweden	Switzerland	Taiwan	Thailand	Turkey	United Kingdom	United States	Non-US	Venezuela	Vietnam	Lithuania	Latvia	Estonia
American Funds New Perspective R6		0.5		0.2						2.9	2.1	0.6	0.7	3.4	3.2			5.9	47.8	52.2					
MSCI ACWI		0.2		0.1	0.1		0.4	0.5		0.8	1.8	1.0	0.9	2.7	1.4	0.3	0.1	5.6	52.0	48.0					
Franklin Mutual Global Discovery Z											1.9	0.3		4.6				13.4	57.3	42.7					
MSCI World		0.3						0.6				1.2	1.0	3.1				6.4	59.2	40.8					

International Fund Country Allocations

As of March 31, 2018

	Argentina	Australia	Austria	Belgium	Brazil	Canada	Chile	China	Czech Republic	Denmark	Finland	France	Germany	Greece	Hong Kong	Hungary	India	Indonesia	Ireland	Israel	Italy	Japan	Malaysia	Mexico	Netherlands
Artisan International Inv				1.0	0.3	2.7	0.1	7.4		0.1		2.7	26.1		2.9			0.7	1.1		4.8	11.1			8.0
Dodge & Cox International Stock					4.3	2.9		3.0				10.9	6.0		0.9		3.4				2.3	10.5		2.8	3.5
MSCI EAFE		6.5	0.3	1.1				0.5		1.8	1.0	10.2	9.7		3.1				0.4	0.5	2.1	24.6			3.8

	New Zealand	Norway	Pakistan	Philippines	Poland	Portugal	Russia	Singapore	Slovakia	South Africa	South Korea	Spain	Sweden	Switzerland	Taiwan	Thailand	Turkey	United Kingdom	United States	Non-US	Venezuela	Vietnam	Lithuania	Latvia	Estonia
Artisan International Inv							1.2			0.7	2.8	1.6		3.8				11.5	9.2	90.8					
Dodge & Cox International Stock		1.2					0.9			5.9	3.9	1.4	2.1	10.1		1.5	0.4	15.2	6.8	93.2					
MSCI EAFE	0.2	0.7				0.2		1.5				3.2	2.7	7.8				17.1	1.0	99.0					

International Fund Country Allocations

As of March 31, 2018

	Argentina	Australia	Austria	Belgium	Brazil	Canada	Chile	China	Czech Republic	Denmark	Finland	France	Germany	Greece	Hong Kong	Hungary	India	Indonesia	Ireland	Israel	Italy	Japan	Malaysia	Mexico	Netherlands
Oppenheimer Developing Markets Y					6.8		0.3	21.7				5.0			2.9		12.3	2.3			1.1		1.0	5.0	0.1
MSCI EM					7.5		1.2	29.7	0.2					0.3	0.3	0.3	8.1	2.0					2.5	2.9	

	New Zealand	Norway	Pakistan	Philippines	Poland	Portugal	Russia	Singapore	Slovakia	South Africa	South Korea	Spain	Sweden	Switzerland	Taiwan	Thailand	Turkey	United Kingdom	United States	Non-US	Venezuela	Vietnam	Lithuania	Latvia	Estonia
Oppenheimer Developing Markets Y				3.7		0.3	8.2	1.4		3.3	7.7	0.3			6.6		1.1	3.9		100.0		0.2			
MSCI EM				1.0	1.2		3.6			6.6	15.1				11.8	2.4	1.0			99.9					

General Fund Information

As of March 31, 2018

Fund	Manager	Average Tenure (years)	Longest Tenure (years)	Total Assets (\$MM)	Morningstar Rating Overall	Morningstar Analyst Rating	Prospectus Net Expense Ratio
Prudential Total Return Bond Q	Robert Tipp (4)*	8	16	\$51,763	★★★★★	Silver	0.41
Neuberger Berman High Income Bond Instl	Thomas P. O'Reilly (4)*	7	13	\$2,486	★★★	Silver	0.71
T. Rowe Price Retirement Balanced	Jerome A. Clark (2)*	9	16	\$2,682	★★★	Silver	0.56
T. Rowe Price Retirement 2005	Jerome A. Clark (2)*	8	14	\$1,719	★★★★	Silver	0.58
T. Rowe Price Retirement 2010	Jerome A. Clark (2)*	9	16	\$5,142	★★★★★	Silver	0.57
T. Rowe Price Retirement 2015	Jerome A. Clark (2)*	8	14	\$8,675	★★★★★	Silver	0.59
T. Rowe Price Retirement 2020	Jerome A. Clark (2)*	9	16	\$24,681	★★★★★	Silver	0.63
T. Rowe Price Retirement 2025	Jerome A. Clark (2)*	8	14	\$21,315	★★★★★	Silver	0.67
T. Rowe Price Retirement 2030	Jerome A. Clark (2)*	9	16	\$27,095	★★★★★	Silver	0.69
T. Rowe Price Retirement 2035	Jerome A. Clark (2)*	8	14	\$16,475	★★★★★	Silver	0.72
T. Rowe Price Retirement 2040	Jerome A. Clark (2)*	9	16	\$19,171	★★★★★	Silver	0.74
T. Rowe Price Retirement 2045	Jerome A. Clark (2)*	8	13	\$10,485	★★★★★	Silver	0.74
T. Rowe Price Retirement 2050	Jerome A. Clark (2)*	7	11	\$8,517	★★★★★	Silver	0.74
T. Rowe Price Retirement 2055	Jerome A. Clark (2)*	7	11	\$3,770	★★★★★	Silver	0.74
Vanguard Balanced Index Instl	Joshua C. Barrickman (3)*	3	5	\$37,858	★★★★★	Gold	0.06

* Longest tenured manager listed with total number of fund managers listed in parentheses

General Fund Information

As of March 31, 2018

Fund	Manager	Average Tenure (years)	Longest Tenure (years)	Total Assets (\$MM)	Morningstar Rating Overall	Morningstar Analyst Rating	Prospectus Net Expense Ratio
Vanguard Equity-Income Adm	James P. Stetler (3)*	9	14	\$31,520	★★★★★	Silver	0.17
Vanguard Institutional Index I	Donald M. Butler (2)*	9	17	\$227,534	★★★★	Gold	0.04
Fidelity Contrafund	William Danoff	28	28	\$129,601	★★★★	Silver	0.74
Parnassus Core Equity Institutional	Todd C. Ahlsten (2)*	11	17	\$15,823	★★★★	Silver	0.66
MFS Mid Cap Value R6	Brooks A. Taylor (2)*	9	9	\$7,152	★★★★		0.71
Vanguard Mid Cap Index Adm	Donald M. Butler (2)*	11	20	\$95,172	★★★★	Gold	0.06
Janus Henderson Enterprise N	Brian Demain (2)*	6	10	\$16,131	★★★★★	Bronze	0.67
Neuberger Berman Genesis Tr	Judith M. Vale (4)*	15	24	\$10,893	★★★	Bronze	1.09
Vanguard Small Cap Index Instl	Gerard C. O'Reilly (2)*	2	2	\$84,237	★★★★	Gold	0.05
Vanguard Small Cap Growth Index Instl	Gerard C. O'Reilly (2)*	8	13	\$21,431	★★★	Silver	0.06
American Funds New Perspective R6	Robert W. Lovelace (7)*	12	17	\$74,132	★★★★★	Gold	0.45
Franklin Mutual Global Discovery Z	Peter A. Langerman (4)*	6	8	\$22,060	★★★	Bronze	0.99
Dodge & Cox International Stock	C. Bryan Cameron (8)*	11	17	\$65,468	★★★	Gold	0.64
Vanguard Total Intl Stock Index Adm	Michael Perre (2)*	5	10	\$342,825	★★★	Gold	0.11
Artisan International Inv	Mark L. Yockey (3)*	12	22	\$14,064	★★	Silver	1.18
Oppenheimer Developing Markets Y	Justin M. Leverenz	11	11	\$40,503	★★★★	Silver	1.07

* Longest tenured manager listed with total number of fund managers listed in parentheses

Fee and Revenue Sharing

Fund	Prospectus Net Expense Ratio	Revenue Sharing	Expense Ratio Net of Revenue Sharing	Morningstar Category Avg Expense Ratio
Prudential Total Return Bond Q	0.41	0.00	0.41	0.77
Neuberger Berman High Income Bond Instl	0.71	0.10	0.61	1.04
T. Rowe Price Retirement Balanced	0.56	0.15	0.41	1.16
T. Rowe Price Retirement 2005	0.58	0.15	0.43	0.73
T. Rowe Price Retirement 2010	0.57	0.15	0.42	0.73
T. Rowe Price Retirement 2015	0.59	0.15	0.44	0.74
T. Rowe Price Retirement 2020	0.63	0.15	0.48	0.81
T. Rowe Price Retirement 2025	0.67	0.15	0.52	0.79
T. Rowe Price Retirement 2030	0.69	0.15	0.54	0.83
T. Rowe Price Retirement 2035	0.72	0.15	0.57	0.81
T. Rowe Price Retirement 2040	0.74	0.15	0.59	0.85
T. Rowe Price Retirement 2045	0.74	0.15	0.59	0.82
T. Rowe Price Retirement 2050	0.74	0.15	0.59	0.85
T. Rowe Price Retirement 2055	0.74	0.15	0.59	0.82
Vanguard Balanced Index Instl	0.06	0.00	0.06	1.15
Vanguard Equity-Income Adm	0.17	0.00	0.17	1.02
Vanguard Institutional Index I	0.04	0.00	0.04	0.97
Fidelity Contrafund	0.74	0.25	0.49	1.11
Parnassus Core Equity Institutional	0.66	0.10	0.56	0.97
MFS Mid Cap Value R6	0.71	0.00	0.71	1.13
Vanguard Mid Cap Index Adm	0.06	0.00	0.06	1.13
Janus Henderson Enterprise N	0.67	0.50	0.17	1.20
Neuberger Berman Genesis Tr	1.09	0.35	0.74	1.30
Vanguard Small Cap Index Instl	0.05	0.00	0.05	1.19
Vanguard Small Cap Growth Index Instl	0.06	0.00	0.06	1.27
American Funds New Perspective R6	0.45	0.00	0.45	1.19
Franklin Mutual Global Discovery Z	0.99	0.15	0.84	1.19
Dodge & Cox International Stock	0.64	0.10	0.54	1.07
Vanguard Total Intl Stock Index Adm	0.11	0.00	0.11	1.07
Artisan International Inv	1.18	0.35	0.83	1.20
Oppenheimer Developing Markets Y	1.07	0.25	0.82	1.41

Index Fund Fee Comparison

Fund	Prospectus Net Expense Ratio	Annual Report Net Expense Ratio	Morningstar Category	Primary Prospectus Benchmark
Vanguard Total Bond Market Index I	0.04	0.04	US Fund Intermediate-Term Bond	BBgBarc US Agg Float Adj TR USD
Fidelity US Bond Index I	0.04	0.06	US Fund Intermediate-Term Bond	BBgBarc US Agg Bond TR USD
Schwab US Aggregate Bond Index	0.04	-	US Fund Intermediate-Term Bond	BBgBarc US Agg Bond TR USD
Vanguard Total Stock Market Index I	0.04	0.03	US Fund Large Blend	CRSP US Total Market TR USD
Fidelity Total Market Index I	0.04	0.04	US Fund Large Blend	DJ US Total Stock Market TR USD
Schwab Total Stock Market Index	0.03	0.09	US Fund Large Blend	DJ US Total Stock Market TR USD
Vanguard Institutional Index I	0.04	0.04	US Fund Large Blend	S&P 500 TR USD
Fidelity 500 Index I	0.04	0.04	US Fund Large Blend	S&P 500 TR USD
Schwab S&P 500 Index	0.03	0.09	US Fund Large Blend	S&P 500 TR USD
Vanguard Extended Market Index I	0.06	0.06	US Fund Mid-Cap Blend	S&P Completion TR USD
Fidelity Extended Market Index Prem	0.07	0.07	US Fund Mid-Cap Blend	DJ US Completion Total Stock Mkt TR USD
Vanguard Mid Cap Index I	0.05	0.05	US Fund Mid-Cap Blend	CRSP US Mid Cap TR USD
Fidelity Mid Cap Index I	0.06	0.06	US Fund Mid-Cap Blend	Russell Mid Cap TR USD
Vanguard Small Cap Index I	0.05	0.05	US Fund Small Blend	CRSP US Small Cap TR USD
Fidelity Small Cap Index I	0.06	0.06	US Fund Small Blend	Russell 2000 TR USD
Schwab Small Cap Index	0.05	0.17	US Fund Small Blend	Russell 2000 TR USD
Vanguard Total Intl Stock Index I	0.09	0.09	US Fund Foreign Large Blend	FTSE Global All Cap ex US (USA) NR USD
Fidelity Total Intl Index I	0.09	0.09	US Fund Foreign Large Blend	MSCI ACWI Ex USA IMI NR USD
Vanguard Developed Markets Index I	0.06	0.06	US Fund Foreign Large Blend	FTSE Dvlp ex US All Cap(US RIC)NR USD
Fidelity International Index I	0.06	0.06	US Fund Foreign Large Blend	MSCI EAFE NR USD
Schwab International Index	0.06	0.19	US Fund Foreign Large Blend	MSCI EAFE NR USD
Vanguard Emerging Mkts Stock Index I	0.11	0.11	US Fund Diversified Emerging Mkts	FTSE EMs AC China A Incl (US RIC) NR USD
Fidelity Emerging Markets Index I	0.11	0.12	US Fund Diversified Emerging Mkts	MSCI EM NR USD

Glossary of Investment Terms

Alpha is a measure of the difference between a portfolio's actual returns and its expected performance, given its level of risk as measured by beta. A positive Alpha figure indicates the portfolio has performed better than its beta would predict. In contrast, a negative Alpha indicates the portfolio has underperformed, given the expectations established by beta.

Average Credit Quality gives a snapshot of the portfolio's overall credit quality. It is an average of each bond's credit rating, adjusted for its relative weighting in the portfolio. For corporate bond and municipal bond funds, Morningstar also shows the percentage of fixed-income securities that fall within each credit-quality rating, as assigned by Standard & Poor's or Moody's. Because it's rare to find individual bonds in a portfolio with a rating below B, the average credit quality of bond funds in Morningstar's database ranges from AAA (highest) to B (lowest). AAA bonds carry the highest credit rating, while bonds issued by speculative companies usually carry the lowest credit ratings. For taxable bonds, anything at or below BB is considered a high-yield or junk bond. For the purpose of Morningstar's calculations, U.S. government bonds are considered AAA and other nonrated bonds generally are considered B.

Average Duration is a measure of a fund's interest-rate sensitivity. The longer a fund's duration, the more sensitive the fund is to shifts in interest rates. Duration is determined by a formula that includes coupon rates and bond maturities. Small coupons tend to increase duration, while shorter maturities and higher coupons shorten duration.

Average Maturity is a weighted average of all the maturities of the bonds in a portfolio, computed by weighting each bond's effective maturity by the market value of the security. Average effective maturity takes into consideration all mortgage prepayments, puts, and adjustable coupons. Longer-maturity funds are generally considered more interest-rate sensitive than their shorter counterparts.

Batting Average is a measure of a manager's ability to consistently beat the market. It is calculated by dividing the number of months in which the manager beat or matched an index by the total number of months in the period. For example, a manager who meets or outperforms the market every month in a given period would have a batting average of 100. A manager who beats the market half of the time would have a batting average of 50.

Beta is a measure of systematic risk with respect to a benchmark. Systematic risk is the tendency of the value of the fund and the value of benchmark to move together. Beta measures the sensitivity of the fund's excess return (total return minus the risk-free return) with respect to the benchmark's excess return that results from their systematic co-movement. It is the ratio of what the excess return of the fund would be to the excess return of the benchmark if there were no fund-specific sources of return. If beta is greater than one, movements in value of the fund that are associated with movements in the value of the benchmark tend to be amplified. If beta is one, they tend to be the same, and if beta is less than one, they tend to be dampened. If such movements tend to be in opposite directions, beta is negative. Beta is measured as the slope of the regression of the excess return on the fund as the dependent variable and the excess return on the benchmark as the independent variable. The beta of the market is 1.00 by definition. Morningstar calculates beta by comparing a portfolio's excess return over T-bills to the benchmark's excess return over T-bills, so a beta of 1.10 shows that the portfolio has performed 10% better than its benchmark in up markets and 10% worse in down markets, assuming all other factors remain constant. Conversely, a beta of 0.85 indicates that the portfolio's excess return is expected to perform 15% worse than the benchmark's excess return during up markets and 15% better during down markets.

Downside Capture Ratio measures a manager's performance in down markets relative to the market (benchmark) itself. For example, if the ratio is 90%, the manager has captured 90% of the down-market and outperformed the market on the downside.

Geometric Average Market Cap provides a measure of the size of the companies in which the fund invests. It is the weighted mean of the market capitalizations of the stocks in the fund's portfolio and is calculated by raising the market capitalization of each stock to a power equal to that stock's stake in the portfolio. The resulting numbers are multiplied together to produce the geometric mean of the market caps of the stocks in the portfolio, which is reported as average market capitalization.

Information Ratio is a risk-adjusted performance measure. The information ratio is a special version of the Sharpe Ratio in that the benchmark is typically the fund's performance benchmark instead of the risk free rate. A higher information ratio indicates higher active returns per unit of active risk while a lower information ratio may indicate low levels of active returns, high levels of active risk or both.

Morningstar Analyst Rating is based on the Morningstar analyst's conviction in the fund's ability to outperform its peer group and/or relevant benchmark on a risk-adjusted basis over the long term. The 5 ratings include Gold, Silver, Bronze, Neutral, and Negative. If a fund receives a positive rating of Gold, Silver, or Bronze, it means Morningstar analysts think highly of the fund and expect it to outperform over a full market cycle of at least five years.

Morningstar Star Rating funds are ranked within their Morningstar categories according to their risk-adjusted return (after accounting for all sales charges and expenses), and stars are assigned such that the distribution reflects a classic bell-shaped curve with the largest section in the center. The 10% of funds in each category with the highest risk-adjusted return receive five stars, the next 22.5% receive four stars, the middle 35% receive three stars, the next 22.5% receive two stars, and the bottom 10% receive one star.

P/B Ratio is the weighted average of the price/book ratios of all the stocks in a portfolio. The P/B ratio of a company is calculated by dividing the market price of its stock by the company's per-share book value. Stocks with negative book values are excluded from this calculation. In theory, a high P/B ratio indicates that the price of the stock exceeds the actual worth of the company's assets, while a low P/B ratio indicates that the stock is a bargain. In practice, book value is an accounting number and for a variety of reasons may not reflect the actual value assigned to a company or security by market participants.

P/E Ratio is the weighted average of the price/earnings ratios of all the stocks in a portfolio. A fund's price/earnings ratio can act as a gauge of the fund's investment strategy in the current market climate, and whether it has a value or growth orientation. Companies in those industries enjoying a surge of popularity tend to have high P/E ratios, reflecting a growth orientation. More staid industries tend to have low P/E ratios, reflecting a value orientation. Morningstar generates this figure in-house on a monthly basis, based on the most-recent portfolio holdings submitted by the fund and stock statistics gleaned from our internal U.S. equities databases. Negative P/Es are not used, and any P/E greater than 60 is capped at 60 in the calculation of the average.

Peer Group Ranking is the fund's total-return percentile rank relative to all funds that have the same Morningstar Category. Morningstar categorizes funds based on their portfolio holdings (portfolio statistics and compositions over the past 3 years). The highest (or most favorable) percentile rank is 1 and the lowest (or least favorable) percentile rank is 100. The top-performing fund in a category will always receive a rank of 1.

Sharpe Ratio is a risk-adjusted measure developed by Nobel Laureate William Sharpe. It is calculated by using standard deviation and excess return to determine reward per unit of risk. The higher the Sharpe Ratio, the better the fund's historical risk-adjusted performance. The Sharpe ratio is calculated for the past 36-month period by dividing a fund's annualized excess returns by the standard deviation of a fund's annualized excess returns. Since this ratio uses standard deviation as its risk measure, it is most appropriately applied when analyzing a fund that is an investor's sole holding. The Sharpe Ratio can be used to compare two funds directly on how much risk a fund had to bear to earn excess return over the risk-free rate.

Standard Deviation is a statistical measurement of dispersion about an average, which, for a mutual fund, depicts how widely the returns varied over a certain period of time. Investors use the standard deviation of historical performance to try to predict the range of returns that are most likely for a given fund. When a fund has a high standard deviation, the predicted range of performance is wide, implying greater volatility.

Total Return is determined by taking the change in net asset value, reinvesting all income and capital-gains distributions, and dividing by the starting net asset value (NAV). Reinvestments are made using the actual reinvestment NAV, and daily payoffs are reinvested monthly. Total return is expressed as a percentage.

Tracking Error is a measure of the volatility of excess returns relative to a benchmark.

Turnover Ratio is a measure of the fund's trading activity which is computed by taking the lesser of purchases or sales (excluding all securities with maturities of less than one year) and dividing by average monthly net assets. A turnover ratio of 100% or more does not necessarily suggest that all securities in the portfolio have been traded. In practical terms, the resulting percentage loosely represents the percentage of the portfolio's holdings that have changed over the past year. A low turnover figure (20% to 30%) would indicate a buy-and-hold strategy while a high turnover (more than 100%) would indicate an investment strategy involving considerable buying and selling of securities.

Upside Capture Ratio measures a manager's performance in up markets relative to the market (benchmark) itself. For example, if the ratio is 110%, the manager has captured 110% of the up-market and outperformed the market on the upside.

Sector Definitions

- **Energy Sector:** The Energy Sector comprises companies whose businesses are dominated by either of the following activities: The construction or provision of oil rigs, drilling equipment and other energy related service and equipment, including seismic data collection. Companies engaged in the exploration, production, marketing, refining, and/or transportation of oil and gas products, coal and other consumer fuels.
- **Materials Sector:** The Materials Sector encompasses a wide range of commodity-related manufacturing industries. Included in this sector are companies that manufacture chemicals, construction materials, glass, paper, forest products and related packaging products, and metals, minerals and mining companies, including producers of steel.
- **Industrials Sector:** The Industrials Sector includes companies whose businesses are dominated by one of the following activities: The manufacture and distribution of capital goods, including aerospace and defense, construction, engineering and building products, electrical equipment and industrial machinery. The provision of commercial services and supplies, including printing, employment, environmental and office services. The provision of transportation services, including airlines, couriers, marine, road and rail and transportation infrastructure.
- **Consumer Discretionary Sector:** The Consumer Discretionary Sector encompasses those industries that tend to be the most sensitive to economic cycles. Its manufacturing segment includes automotive, household durable goods, textiles and apparel and leisure equipment. The services segment includes hotels, restaurants and other leisure facilities, media production and services, and consumer retailing and services.
- **Consumer Staples Sector:** The Consumer Staples Sector comprises companies whose businesses are less sensitive to economic cycles. It includes manufacturers and distributors of food, beverages and tobacco and producers of non-durable household goods and personal products. It also includes food and drug retailing companies as well as hypermarkets and consumer super centers.
- **Health Care Sector:** The Health Care Sector encompasses two main industry groups. The first includes companies who manufacture health care equipment and supplies or provide health care related services, including distributors of health care products, providers of basic health-care services, and owners and operators of health care facilities and organizations. The second regroups companies primarily involved in the research, development, production and marketing of pharmaceuticals and biotechnology products.
- **Financials Sector:** The Financials Sector contains companies involved in banking, thrifts & mortgage finance, specialized finance, consumer finance, asset management and custody banks, investment banking and brokerage and insurance. It also includes Financial Exchanges & Data and Mortgage REITs.
- **Real Estate Sector:** The Real Estate Sector contains companies engaged in real estate development and operation. It also includes companies offering real estate related services and Equity Real Estate Investment Trusts (REITs).
- **Information Technology Sector:** The Information Technology Sector covers the following areas: firstly, Technology Software and Services, including companies that primarily develop software in various fields such as the Internet, applications, systems, database management and/or home entertainment, and companies that provide information technology consulting and services, as well as data processing and outsourced services; secondly, Technology Hardware and Equipment, including manufacturers and distributors of communications equipment, computers and peripherals, electronic equipment and related instruments; and thirdly, Semiconductors and Semiconductor Equipment Manufacturers.

- **Telecommunications Services Sector:** The Telecommunications Services Sector contains companies that provide communications services primarily through a fixed-line, cellular, wireless, high bandwidth and/or fiber optic cable network.
- **Utilities Sector:** The Utilities Sector encompasses those companies considered electric, gas or water utilities, or companies that operate as independent producers and/or distributors of power.

Regional Definitions

- **North America:** United States and Canada
- **Emerging Central & Latin America:** Mexico and Central and South America
- **United Kingdom:** England, Northern Ireland, Scotland, Wales
- **Developed Europe:** Austria, Belgium, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain
- **Emerging Europe:** Russia and other Eastern European countries
- **Africa/Middle East:** Africa and Western Asian countries
- **Japan:** Japan
- **Australasia:** Australia and New Zealand
- **Developed Asia:** Hong Kong, Singapore, South Korea
- **Emerging Asia:** China, India, Indonesia, Malaysia, Philippines, Thailand

CONDUENT



**Client has the authority to select investments and investment managers. Past performance is not indicative of future results.
We do not guarantee the performance of any investment, fund, or manager.**

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